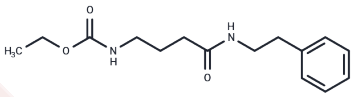
Data Sheet (Cat.No.T2266)

TargetMol

SantacruzaMate A

Chemical Properties



CAS No. : 1477949-42-0

Formula: C15H22N2O3

Molecular Weight: 278.35

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	SantacruzaMate A (CAY-10683) is a potent and selective HDAC inhibitor.
Targets(IC50)	Beta Amyloid,HDAC
In vivo	Santacruzamate A inhibits the growth of HCT116 colon cancer cells and HuT-78 cutaneous T-cell lymphoma cells, with GI50 values of 29.4 μM and 1.4 μM, respectively.
Kinase Assay	HDAC Enzyme Assay: The commercially availablae human recombinant enzyme and fluorogenic HDAC assay kits have used to measure percent inhibition and IC50 values of three HDAC isozymes (HDAC2, HDAC4, HDAC6). Briefly, the inhibitor is added sequentially to a black, flat-bottom 96-well microtiter plate, and the reaction mixture is incubated for 30 min at 37°C. The potent HDAC inhibitor trichostatin A (included in the assay kit) is added to the bifunctional HDAC assay developer at a final reaction concentration of 1 μM to stop deacetylation and initiate the release of the fluorophore. The reaction mixture is further incubated at room temperature for 15 min. Fluorescence is measured on a Spectra Max Gemini XPS using an excitation wavelength of 360 nm and a detection wavelength of 460 nm.
Cell Research	HuT-78 cells incubated in Iscove's modified Dulbecco's medium supplemented with 20% FBS, 1% penicillin/streptomycin, and 1% L-glutamine. HCT-116 cells cultivated using McCoy's 5A medium supplemented with 10% FBS, 1% penicillin/streptomycin, and 1% nonessential amino acids. Cells were seeded in a 96-well plate at 5000cells per well. Before treatment, the plates were incubated at 37°C, 5% CO2 for 24 h. Treatment with inhibitors were incubated in wells for 72 or 96 h using SAHA as a positive control. Antiproliferative activity was determined using a standard MTS-PMS assay. (Only for Reference)

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 51 mg/mL (183.22 mM),Sonication is recommended. Ethanol: 51 mg/mL (183.22 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (7.19 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5926 mL	17.963 mL	35.926 mL
5 mM	0.7185 mL	3.5926 mL	7.1852 mL
10 mM	0.3593 mL	1.7963 mL	3.5926 mL
50 mM	0.0719 mL	0.3593 mL	0.7185 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Pavlik CM, et al. J Nat Prod. 2013, 76(11), 2026-2033.
Wang C, Huang M, Lin Y, et al.ENO2-derived phosphoenolpyruvate functions as an endogenous inhibitor of HDAC1 and confers resistance to antiangiogenic therapy.Nature Metabolism.2023: 1-22.
Qin Y, Liu Q, Wang S, et al.Santacruzamate A Alleviates Pain and Pain-Related Adverse Emotions through the Inhibition of Microglial Activation in the Anterior Cingulate Cortex.ACS Pharmacology & Translational Science.2024

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